

Date: Friday, 5/25/2007 8:18:35 AM
 User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: 412 FLOAT SKIDTUBE
Job Number	: 32593		
Estimate Number	: 11437		
P.O. Number	: N/A	Part Number	: D3391015
This Issue	: 5/25/2007 S.O. No. : N/A	Drawing Number	: D3391 REV.F
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: N/A	Drawing Revision	: F
Previous Run	: N/A	Material	: N/A
Written By	:	Due Date	: 6/20/2007
Checked & Approved By	: <u>07.05.28</u>	Qty:	1 Um: Each
Comment	: est rev A 05.12.13 New issue EC		
	: est rev B 06.02.09 Dwg @ revD EC		
	: est rev C 07.03.13 dwg @revF ec		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	D6014090	ALUMINUM EXTRUSION
-----	----------	--------------------



Comment: Qty.: 1.0000 f(s)/Unit Total: 1.0000 f(s)

ALUMINUM EXTRUSION

Pick:

Qty	Part Number	Description	Batch
-----	-------------	-------------	-------

1	D6014-090	Extrusion	265410
---	-----------	-----------	--------

Identify as D3391-3

MS 07/06/25

①

2.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
-----	------------	----------------------------



Comment: MORI SEIKI CNC LATHE LARGE

Turn as per Folio FA599

Rev: AA & Dwg D3391 Rev: F

MS 07/06/25

①

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	--



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

MS 07/06/25

①

4.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
-----	-------	--------------------------------



Comment: HAAS

1-Machine as per Folio FA 599 Rev: AA & Dwg D3391 Rev: F

2-Deburr

JL 07/07/09

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3391-015 PAR #: N/A Fault Category: Prod/Machined parts NCR: Yes No DQA: Date: 07/07/11
 QA: N/C Closed: Date: 07.07.11

NCR: <u>32593</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
<u>07/07/09</u>	<u>4</u>	<u>-1 part 2.484 holes are off by .030 of center line on one side only, part was galled at wrong place.</u>	<u>PH per QSS 042 07.07.09</u>	<u>SEE ATTACHED PART IS SCRAP</u>	<u>J.L 07/10/09</u>	<u>RB QSS 042 07.07.09</u>	<u> </u>	<u> </u>
		<u>→ tool was dropped when performing a tool change and caused a dent in the tube. (HANS #1)</u>	<u> </u>	<u>Destroy</u>	<u>SAD 07/07/10</u>	<u>En 07/07/10</u>	<u> </u>	<u> </u>

NOTE: Date & initial all entries

Date: Friday, 5/25/2007 8:18:35 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 412 FLOAT SKIDTUBE

Job Number: 32593

Part Number: D3391015

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

JL 07/07/09

6.0

QC8

SECOND CHECK



Comment: SECOND CHECK

7.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

SCRAP

8.0

BENDING

BENDING MACHINE



Comment: NC Bender

Form as per Dwg D3391

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

10.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill Tube as per D3391 using DT8808 (ALL HOLES)

3-Drill and c' sink wearshoe holes as per Dwg D3391

4-C' sink holes for float bag (4 holes per side) as per Dwg D3391
Deburr

5- Tranfer holes from D3391-013 for electric step in tube

11.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 5/25/2007 8:18:35 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 412 FLOAT SKIDTUBE

Job Number: 32593

Part Number: D3391015

Job Number:



Seq. #: Machine Or Operation: Description :

12.0 HAND FINISHING1 HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1
Acid etch and Alodine as per QSI 005 4.1

13.0 POWDER COATING POWDER COATING



Comment: POWDER COATING
Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

14.0 QC3 INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

15.0 AEES10KB366 INSERT



Comment: Qty.: 18.0000 Each(s)/Unit Total : 18.0000 Each(s)

Insert

Pick:

Qty Part Number Description Batch

18 AEES10KB366 Insert

16.0 NAS1330C3KB316 INSERT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part Number Description Batch

4 NAS1330C3KB316 Insert

17.0 NAS1330C3KB266 INSERT



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

Pick:

Qty Part Number Description Batch

4 NAS1330C3KB266 Insert

18.0 NAS1330C3KB216 INSERT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part Number Description Batch

4 NAS1330C3KB216 Insert

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 5/25/2007 8:18:36 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 412 FLOAT SKIDTUBE

Job Number: 32593

Part Number: D3391015

Job Number:



Seq. #:

Machine Or Operation:

Description :

19.0

NAS1330C3KB166

INSERT



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
12	NAS1330C3KB166	Insert	

20.0

NAS1330C4KB151

INSERT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
4	NAS1330C4KB151	Insert	

21.0

D2646

Aft Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Aft Cap

Pick:

Qty	Part Number	Description	Batch
1	D2646	Aft Cap	

22.0

D35371

WEARPAD



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARPAD

23.0

D35377

Wearpad



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Wearpad

24.0

D35531

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Gasket

25.0

D35533

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Gasket

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 5/25/2007 8:18:36 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 412 FLOAT SKIDTUBE

Job Number: 32593

Part Number: D3391015

Job Number:



Seq. #:

Machine Or Operation:

Description :

26.0

AN3C4A

BOLT



Comment: Qty.: 6.0000 Each(s)/Unit Total : 6.0000 Each(s)

Bolt

Pick:

Qty	Part Number	Description	Batch
2	AN3C4A	Bolt	

27.0

AN3C5A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

28.0

AN960C10L

washer



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

Inventory

Pick:

Qty	Part Number	Description	Batch
2	AN960C10L	Washer	

29.0

NAS1515H3L

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

WASHER

Pick:

Qty	Part Number	Description	Batch
2	NAS1515H3L	Washer	

30.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Install inserts per "insert installation detail" of dwg D3391

2-Install Aft Cap as per Dwg D3391

A/R Sikaflex-241/-291

Sikaflex expiry date:

31.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 5/25/2007 8:18:36 AM

User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 412 FLOAT SKIDTUBE

Job Number: 32593

Part Number: D3391015

Job Number:



Seq. #:

Machine Or Operation:

Description :

32.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

33.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



U 07-07-11

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	32593
Description: Float Skidtube (412)		Part Number:	D3391-3
Inspection Dwg: D3391 Rev: F		Page 1 of 1	

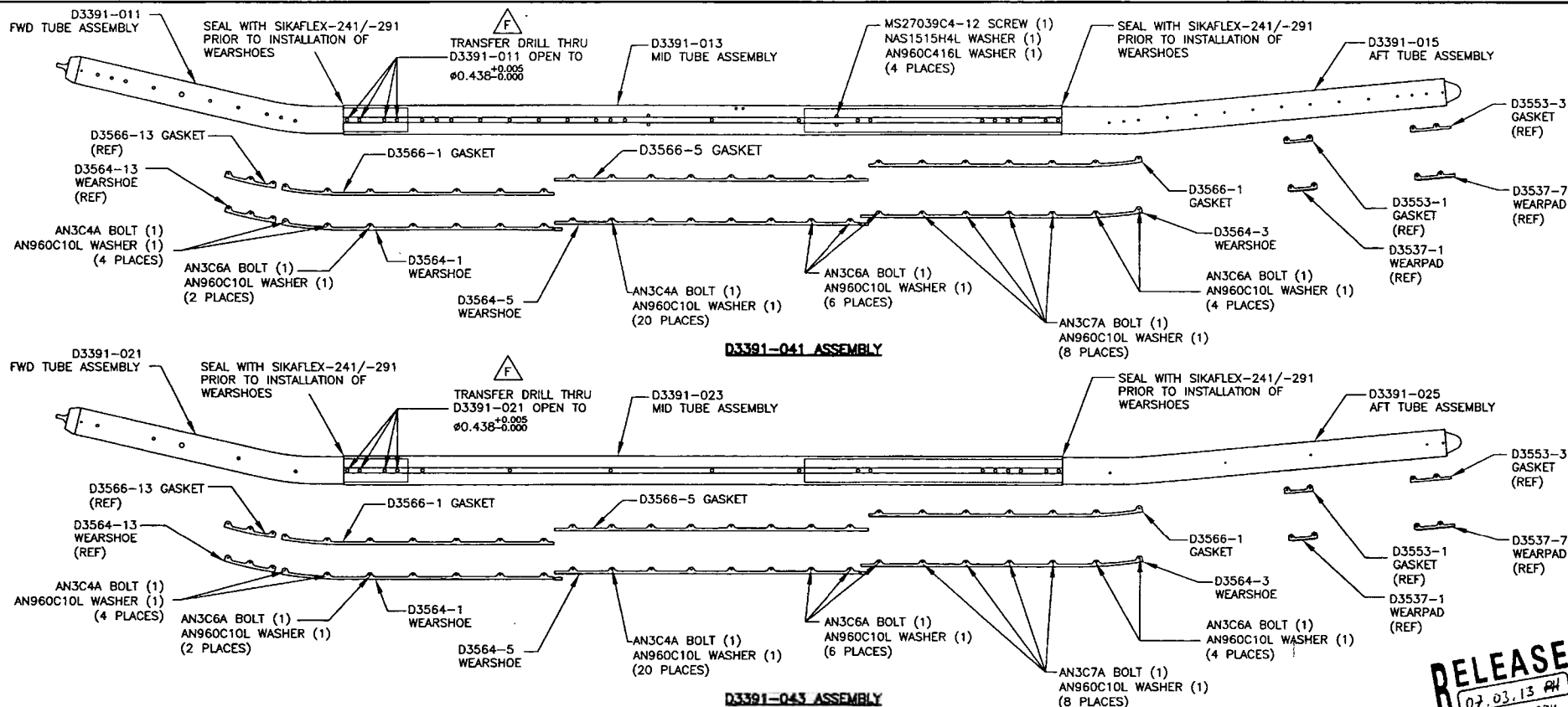
FIRST ARTICLE INSPECTION CHECKLIST

☒ **First Article**
☐ **Prototype**

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
14.000	+/-0.010	14.000	✓			
3.500	+/-0.010	3.502	✓			
88.93	+/-0.030	88.93	✓			
44.995	+/-0.030					
3.200	+/-0.010	3.200	✓			
1.526	+0.000/-0.030	1.522	✓			
0.200	+/-0.010					
7.500	+/-0.010	7.500	✓			
27.750	+/-0.010	27.750	✓			
31.750	+/-0.010	31.750	✓			
35.250	+/-0.010	35.250	✓			
0.400	+/-0.010					
3.300	+/-0.010	3.300	✓			
0.200	+/-0.010	.206	✓			
3.520	+/-0.010	3.525	✓			
0.687	+0.010/-0.000	.690	✓			
R0.062	+/-0.010	.062	✓			
Ø0.484	+0.005/-0.001	.489	✓			

Measured by:	MS/ J.L	Audited by:		Prototype Approval:	N/A
Date:	01/06/25	Date:		Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	



D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY -041	QTY -043	PART NUMBER	DESCRIPTION
X	X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
		D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
1	1	D3391-021	FWD TUBE ASSEMBLY
1	1	D3391-023	MID TUBE ASSEMBLY
1	1	D3391-025	AFT TUBE ASSEMBLY
1	1	D3564-1	WEARSHOE
1	1	D3564-3	WEARSHOE
1	1	D3564-5	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
24	24	AN3C4A	BOLT
12	12	AN3C6A	BOLT
8	8	AN3C7A	BOLT
44	44	AN960C10L	WASHER
4		MS27039C4-12	SCREW
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER

GENERAL NOTES

- 1) ALL DIMENSIONS ARE IN INCHES
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) FINISH: ACID ETCH AND ALDINE PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 4) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL 'E' SIZE HOLES (#0.250-#0.257) FOR WEARSHOE INSERTS. C'SINK #0.391/#0.425 x 100" AS APPLICABLE AND INSTALL INSERTS EXCEPT WHERE INDICATED.

COPYRIGHT © 2006 BY DART AEROSPACE USA, INC.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

F	07.01.18	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021
E	06.04.25	CHANGE TOLERANCE, EASE MANUFACTURE
D	06.01.23	UPDATE TOLERANCE, CHANGE HOLE SIZE
C	05.09.27	LENGTHEN AFT EXTENSION
B	05.06.10	DRAWING UPDATES
A	05.02.07	NEW ISSUE
DESIGN	PH	DRAWN BY
CHECKED	PH	APPROVED
DATE	07.01.18	TITLE
		412 FLOAT SKIDTUBE

DART DART AEROSPACE USA, INC.
PORT HADLOCK, MA

DRAWING NO.
D3391

REV. F

SHEET 1 OF 5

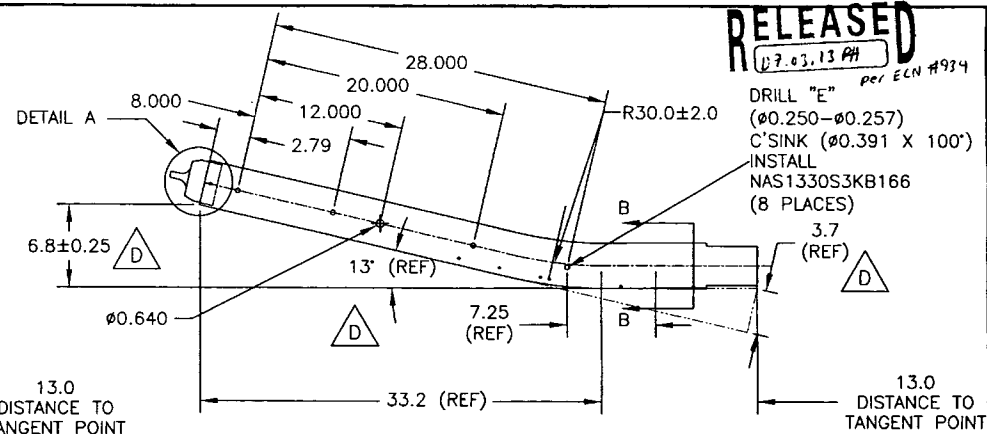
SCALE

NTS

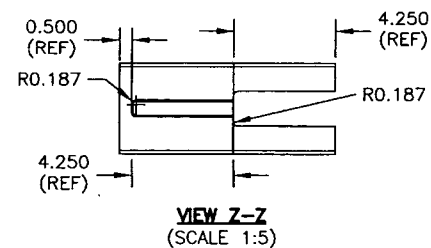
RELEASED
07.03.13 AH
per E-CN #934

NO. 20593
WORK ORDER
SUBJECT TO AMENDMENT
WITHOUT NOTICE
ENGINEERING
CONTROLLED COPY
RETURN TO
SHOP COPY

per ECN H 21



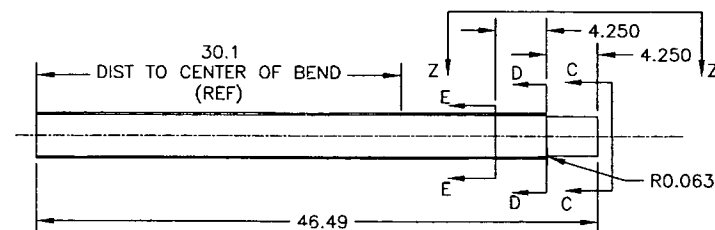
D3391-021 ASSEMBLY AND BENDING DETAIL



VIEW Z-Z
(SCALE 1:5)

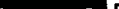


QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
1	1	D3564-13	WEARSHOE
1	1	D3566-13	GASKET
10	10	AN3C4A	BOLT
4	4	NAS1515H3L	WASHER
10	10	AN960C10L	WASHER
30	20	NAS1330S3KB166	INSERT (OR NAS1330C3KB166)

SECTION B-B
(SCALE 1:5)

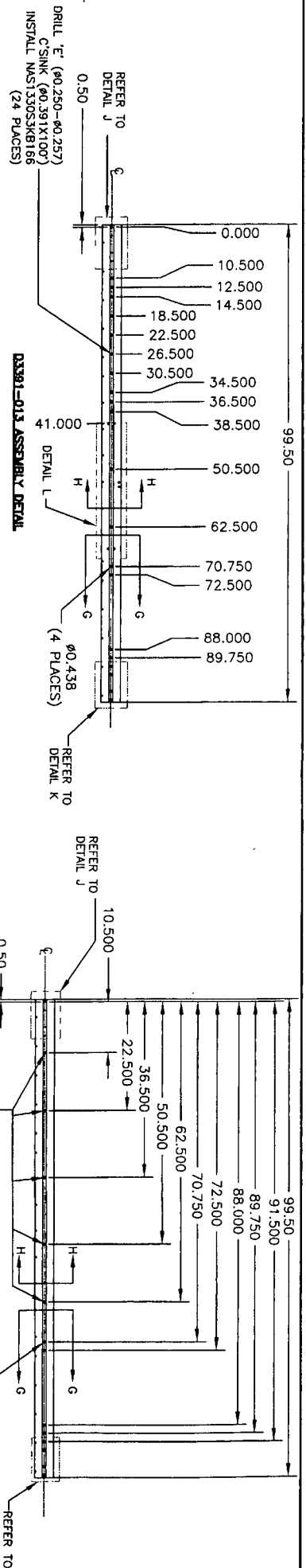


D3391-1 DRILLING AND CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL
AND IS SUPPLIED ON THE EXPRESS CONDITION
THAT IT IS NOT TO BE USED FOR ANY PURPOSE
OR COPIED OR COMMUNICATED TO ANY OTHER
PERSON WITHOUT WRITTEN PERMISSION FROM
DART AEROSPACE USA, INC.

DESIGN	DRAWN BY	 DART AEROSPACE USA, INC. PORT HADLOCK, MA	
CHECKED 	APPROVED 	DRAWING NO.	REV. F
		D3391	SHEET 2 OF 5
DATE		TITLE	SCALE
07.01.18		412 FLOAT SKIDTUBE	1:10

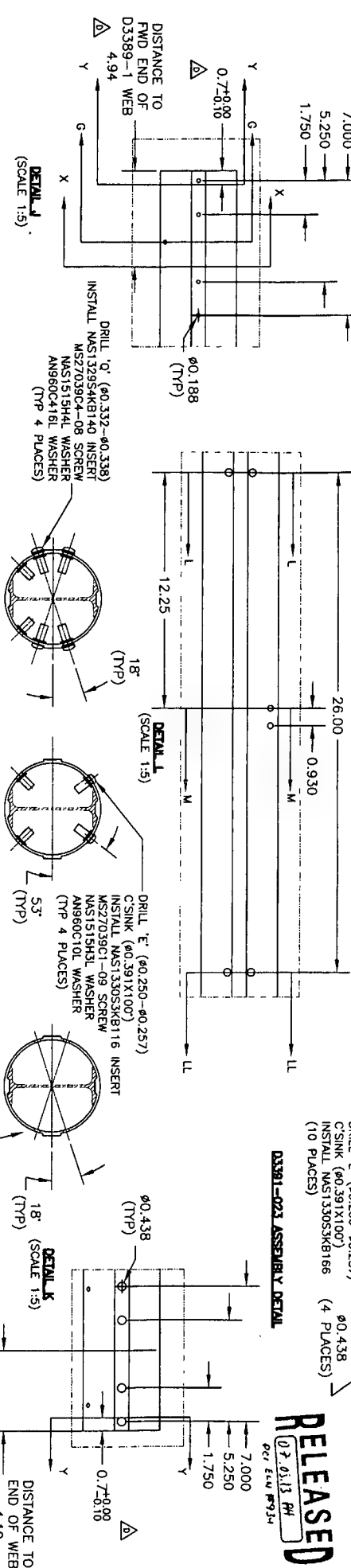
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
84593



D3391-013 ASSEMBLY DETAIL

D3391-023 ASSEMBLY DETAIL

RELEASED
07-01-18
PCF 244 0734



D3391-013-023 MID TUBE ASSEMBLY PARTS LIST

QTY -	QTY -	PART NUMBER	DESCRIPTION
013	023		
X		D3391-013	MID TUBE ASSEMBLY
X		D3391-023	MID TUBE ASSEMBLY
1	1	D2500-1-100	EXTRUSION
1	1	D3389-1	WEB
24	20	NAS1330S3KB116	INSERT (OR NAS1330S3KB116)
24	10	NAS1330S3KB166	INSERT (OR NAS1330S3KB166)
4	4	NAS1329S4KB140	INSERT (OR NAS1329S4KB140)
4	4	NAS1515H3L	WASHER
4	4	AN860C10L	WASHER
4	4	NAS1515H4L	WASHER
4	4	AN860C416L	WASHER
4	4	MS27039C1-09	SCREW
4	4	MS27039C4-08	SCREW

SECTION L-L (SCALE 1:4)

SECTION M-M (SCALE 1:4)

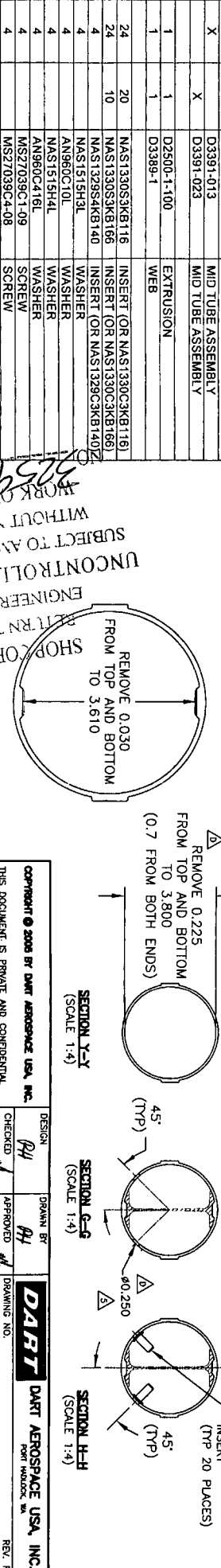
SECTION N-N (SCALE 1:4)

SECTION O-O (SCALE 1:4)

SECTION P-P (SCALE 1:4)

SECTION Q-Q (SCALE 1:4)

SECTION R-R (SCALE 1:4)



D3391-013-023 MID TUBE ASSEMBLY
1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
2) INSTALL D3389-1 WEB TO OUTER TUBE USING SKAPLEX-241/-291 PER 057-015

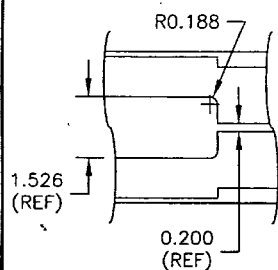
DESIGN BY: *PH* DRAWN BY: *PH* CHECKED: *PH* APPROVED: *PH* DART DART AEROSPACE USA, INC. 07/01/18

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. IT IS NOT TO BE RELEASED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

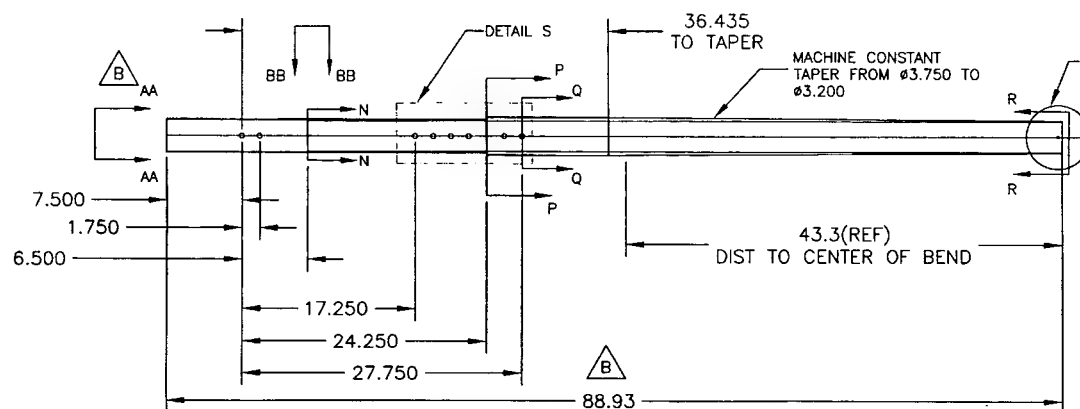
DATE: 07/01/18 TITLE: 412 FLOAT SKIDTUBE

REVISION: 120

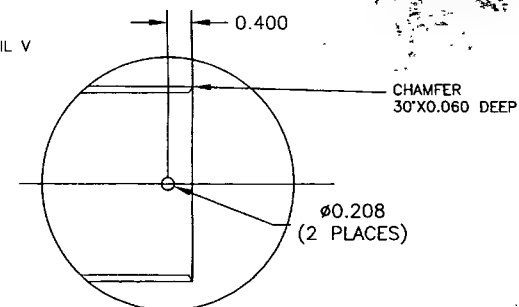
WORK ORDER 32593
WITHOUT NOTICE
SUBJECT TO AMENDMENT
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY
SECTION X-X
(SCALE 1:2)
REMOVE 0.030
FROM TOP AND BOTTOM
TO 3.610
REMOVE 0.225
FROM TOP AND BOTTOM
TO 3.800
(0.7 FROM BOTH ENDS)



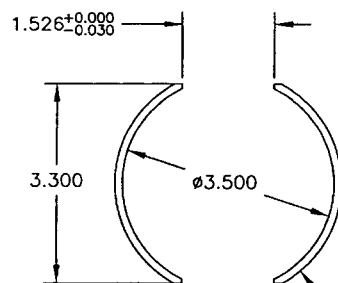
VIEW BB-BB
(SCALE 1:3)



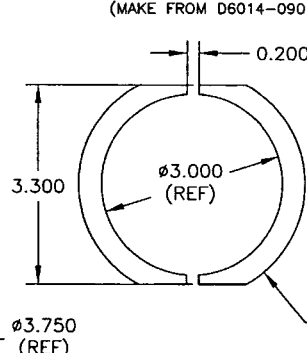
D3391-3 AFT DRILLING AND CUTTING DETAIL
(MAKE FROM D6014-090 SKIDTUBE MATERIAL)



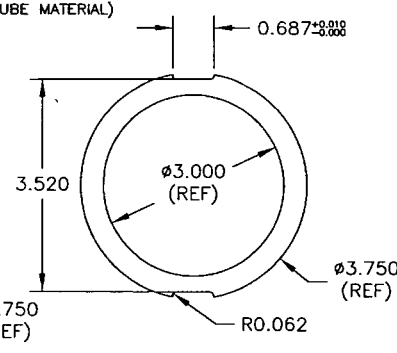
DETAIL V
(SCALE 1:2)



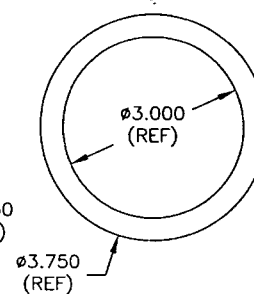
SECTION AA-AA
(SCALE 1:2)



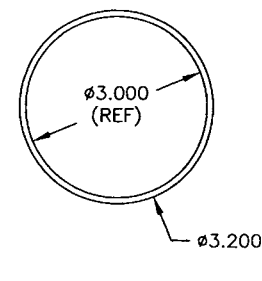
SECTION N-N
(SCALE 1:2)



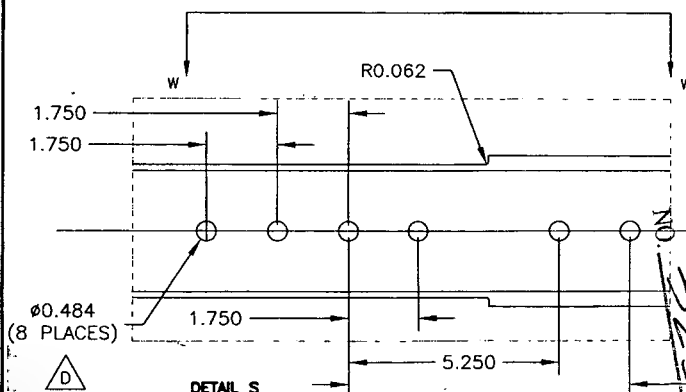
SECTION P-P
(SCALE 1:2)



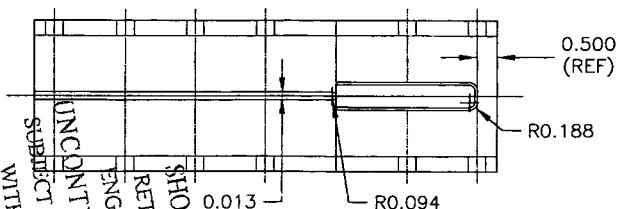
SECTION Q-Q
(SCALE 1:2)



SECTION R-R
(SCALE 1:2)



DETAIL S
(SCALE 1:3)



VIEW W-W
(SCALE 1:3)

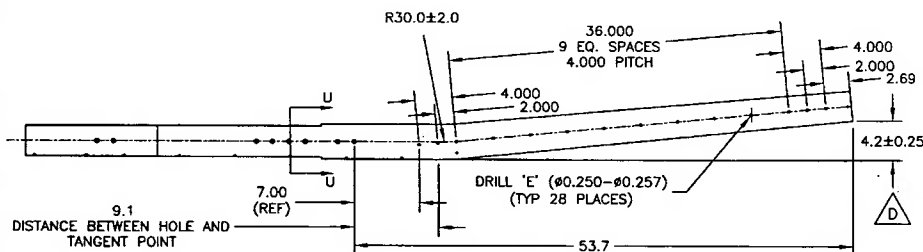
NO. 22593
WORK ORDER
WITHOUT NOTICE
SUBJECT TO AMENDMENT
ENGINEERING
RETURN TO
SHOP COPY

RELEASED
07 03.13 PM
per ECU #934

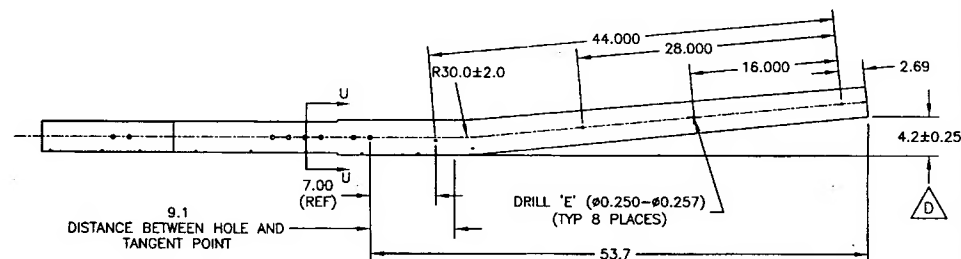
COPYRIGHT © 2005 BY DART AEROSPACE USA, INC.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL
AND IS SUPPLIED ON THE EXPRESS CONDITION
THAT IT IS NOT TO BE USED FOR ANY PURPOSE
OR COPIED OR COMMUNICATED TO ANY OTHER
PERSON WITHOUT WRITTEN PERMISSION FROM
DART AEROSPACE USA, INC.

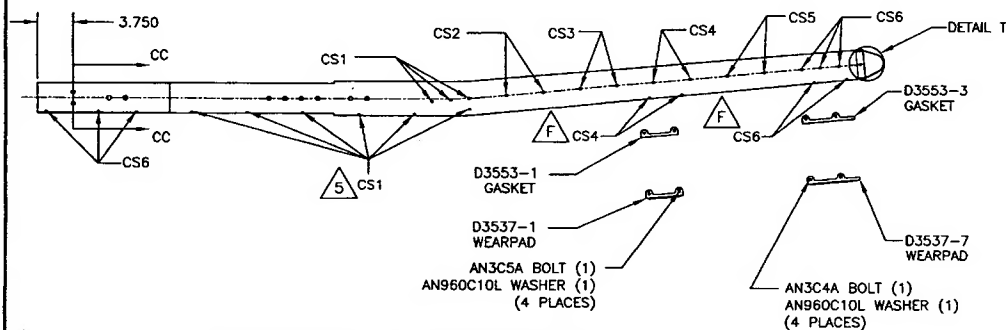
DESIGN PH	DRAWN BY PH	DART DART AEROSPACE USA, INC. FORT HADLOCK, MA	REV. F
CHECKED H	APPROVED H	DRAWING NO. D3391	SHEET 4 OF 5
DATE 07.01.18	TITLE 412 FLOAT SKIDTUBE	SCALE 1:12	



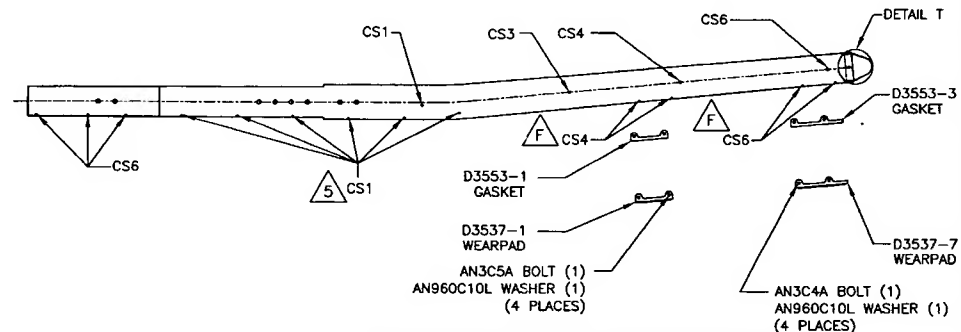
D3391-015 BENDING AND ASSEMBLY DETAIL



D3391-025 BENDING AND ASSEMBLY DETAIL



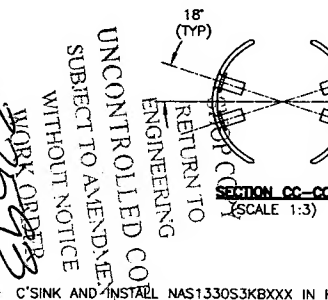
D3391-015 INSERT AND WEARPAD INSTALLATION DETAIL
(SEE TABLE)



D3391-025 INSERT AND WEARPAD INSTALLATION DETAIL
(SEE TABLE)

D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

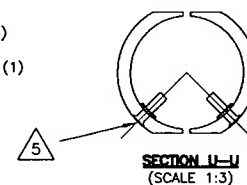
QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X	X	D3391-015	AFT TUBE ASSEMBLY
		D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
18	14	NAS1330S3KB366	INSERT (OR AFS10KB366)
4	2	NAS1330S3KB316	INSERT (OR NAS1330C3KB316)
8	6	NAS1330S3KB266	INSERT (OR NAS1330C3KB266)
4	4	NAS1330S3KB216	INSERT (OR NAS1330C3KB216)
16	12	NAS1330S3KB166	INSERT (OR NAS1330C3KB166)
4	4	NAS1330S4KB151	INSERT (OR NAS1330C4KB151)
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
2	2	NAS1515H3L	WASHER
10	10	AN960C10L	WASHER



C/SINK AND INSTALL NAS1330S3KBXXX IN HOLES MARKED CS1-CS6 AS FOLLOWS

HOLES MARKED	QTY D3391-015	QTY D3391-025	C/SINK	P/N
CS1	18	14	Ø0.425	NAS1330S3KB366
CS2	4		Ø0.391	NAS1330S3KB366
CS3	4	2	Ø0.391	NAS1330S3KB316
CS4	8	6	Ø0.391	NAS1330S3KB266
CS5	4		Ø0.391	NAS1330S3KB216
CS6	16	12	Ø0.391	NAS1330S3KB166

DRILL 'Q' (Ø0.332-Ø0.338)
C/SINK (Ø0.529X100")
NAS1330S4KB151 INSERT (1)
(4 PLACES)



AN3C4A BOLT (1)
NAS1515H3L WASHER (1)
AN960C10L WASHER (1)
(2 PLACES)
DETAIL T (SCALE 1:3)
SEAL WITH SIKAFLEX-241/-291

RELEASED
07, 03.13 RH
per EGN #934

COPYRIGHT © 2006 BY DART AEROSPACE USA, INC.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

DESIGN PH	DRAWN BY BL	DART DART AEROSPACE USA, INC. PORT HADLOCK, MA
CHECKED H	APPROVED H	DRAWING NO. D3391
DATE 07.01.18	TITLE 412 FLOAT SKIDTUBE	SCALE 1:12

REV. F
SHEET 5 OF 5

Peter Hum

From: David Shepherd [dshepherd@dartaero.com]
Sent: July 9, 2007 4:12 PM
To: 'Peter Hum'
Cc: 'Jean-Luc Menard (Jean-Luc Menard)'; 'Eric Charbonneau'; mbellavance@dartaero.com
Subject: RE: D3391-5 aft tube dent

I agree. I would say to scrap it.

David

From: Jean-Luc Menard [mailto:jmenard@dartaero.com]
Sent: Monday, July 09, 2007 8:03 AM
To: 'Peter Hum'; 'David Shepherd'
Cc: 'Jean-Luc Menard (Jean-Luc Menard)'; 'Eric Charbonneau'; mbellavance@dartaero.com
Subject: RE: D3391-5 aft tube dent

I would say scrap it.
JLM

From: Peter Hum [mailto:phum@dartaero.com]
Sent: Monday, July 09, 2007 9:09 AM
To: 'David Shepherd'
Cc: 'Jean-Luc Menard (Jean-Luc Menard)'; 'Eric Charbonneau'; mbellavance@dartaero.com
Subject: D3391-5 aft tube dent

David,

We are machining a D3391-5 aft tube for the tri-beam.

Upon inspection the following was found:

- 1) 2 ground handling holes on 1 side are 0.030" below the centerline. See picture DSCF4095
- 2) On the top side of the tube there is a dent caused during the machining process. See picture DSCF4088. The dent is 0.125" OD x 0.030" deep. Apparently this happened when the tool fell out of the tool change/spindle. The end mill hit the top of the tube and the end result is the dent. The location of this dent is almost directly at the centerline of the aft crosstube.

Solution:

- a) For 1) I think we can continue, if production needs to grind the D3391-5 ground handling holes only. If required, can we grind the holes on the D3391-5 only to allow for installation of the ground handling lugs
- b) For 2) Given the size, depth, and relative location of the dent, I'm not sure how to proceed

How should we proceed?

JLM/EC,

See comment 2).

Thanks

09/07/2007

